Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of	)	
	)	
Petition For Declaratory Ruling That	)	
tw telecom inc. Has The Right To Direct	)	
IP-to-IP Interconnection Pursuant To	)	WC Docket No. 11-119
Section 251(c)(2) Of The Communications Act,	)	
As Amended, For The Transmission And	)	
Routing Of tw telecom's Facilities-Based VoIP	)	
Services And IP-In-The-Middle Voice Services	)	

REPLY COMMENTS OF TW TELECOM INC., INTEGRA TELECOM, INC., AND CBEYOND, INC.

Paul B. Jones
Executive Vice President –
General Counsel & Regulatory Policy
tw telecom inc.
10475 Park Meadow Drive
Littleton, CO 80124
(303) 566-1237

J. Jeffery Oxley
Executive Vice President &
General Counsel
Integra Telecom, Inc.
1201 NE Lloyd Blvd., Suite 500
Portland, OR 87232
(503) 453-8118

William H. Weber
General Counsel
Cbeyond, Inc.
320 Interstate North Parkway, SE
Atlanta, GA 30339
(678) 370-2327

August 30, 2011

TABLE OF CONTENTS

Page

Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of	)	
	)	
Petition For Declaratory Ruling That	)	
tw telecom inc. Has The Right To Direct	)	
IP-to-IP Interconnection Pursuant To	)	WC Docket No. 11-119
Section 251(c)(2) Of The Communications Act,	)	
As Amended, For The Transmission And	)	
Routing Of tw telecom's Facilities-Based VoIP	)	
Services And IP-In-The-Middle Voice Services	)	

REPLY COMMENTS OF
TW TELECOM INC., INTEGRA TELECOM, INC., AND CBEYOND, INC.

Pursuant to the Commission's July 15, 2011 Public Notice,[1] tw telecom inc. ("TWTC"), Integra Telecom, Inc. ("Integra"), and Cbeyond, Inc. ("Cbeyond") (collectively, the "Joint Commenters") hereby submit these reply comments on TWTC's Petition in the above-referenced proceeding.[2]

I. INTRODUCTION AND SUMMARY.

Section 251(c)(2) of the Act[3] requires that incumbent local exchange carriers ("LECs") provide interconnection to requesting telecommunications carriers at any technically feasible point "for the transmission and routing of telephone exchange service and exchange access."

---

[1] *See Comment Sought on tw telecom inc. Petition for Declaratory Ruling Regarding Direct IP-to-IP Interconnection Pursuant to Section 251(c)(2) of the Communications Act*, Public Notice, DA 11-1198 (rel. July 15, 2011).

[2] *See* Petition For Declaratory Ruling That tw telecom inc. Has The Right To Direct IP-to-IP Interconnection Pursuant To Section 251(c)(2) Of The Communications Act, As Amended, For The Transmission And Routing Of tw telecom's Facilities-Based VoIP Services And IP-In-The-Middle Voice Services, WC Dkt. No. 11-119 (filed June 30, 2011) ("Petition").

[3] 47 U.S.C. § 251(c)(2). The Communications Act of 1934, 47 U.S.C. §§ 151 *et seq.* (the "Act" or "Communications Act"), was amended by the Telecommunications Act of 1996, Pub. L. No. 104-104, 110 Stat. 56 (1996).

Given that incumbent LECs have no incentive to interconnect their enormous networks with competitors' much smaller networks, this requirement is essential to the continued development of competition. Companies and organizations from virtually every sector of the telecommunications industry, including over-the-top VoIP providers, cable companies and competitive LECs, as well as state commissions and consumer groups agree that it is critical for the Commission to clarify that incumbent LECs must provide IP-to-IP interconnection for the exchange of facilities-based VoIP traffic.

It is obvious that TWTC's facilities-based VoIP services are telecommunications services, telephone exchange services and exchange access services. The Commission has already held that, "from the perspective of a customer making an ordinary telephone call," interconnected VoIP services (including both facilities-based VoIP services and "over-the-top" VoIP services) and TDM-based telephone service "*are virtually indistinguishable*." The Commission has also held (and the incumbent LECs agree) that consumers view facilities-based VoIP services as a substitute for TDM-based telephone service. Given that TDM-based telephone service is classified as a telecommunications service, a telephone exchange service and an exchange access service, the Commission must treat facilities-based VoIP services in the same manner.

Moreover, the Commission has applied to interconnected VoIP services (including facilities-based VoIP services) virtually every regulatory *obligation* applicable to telephone and telecommunications service providers (e.g., E911 requirements, universal service contribution obligations, privacy regulations, number portability requirements, discontinuance obligations, and so on). Yet the Commission has done nothing to ensure that providers of facilities-based VoIP services have the *rights* granted to providers of telephone and telecommunications services

under the Communications Act. TWTC's Petition simply asks the Commission to begin to rectify this imbalance by requiring that incumbent LECs comply with their obligation to interconnect with competitors' IP voice networks.

Unsurprisingly, the incumbent LECs and their allies raise a host of boilerplate arguments in opposition to TWTC's Petition. These arguments reduce to the proposition that the Commission should cease enforcing legislative mandates designed to address incumbent LECs' market power because the industry is transitioning to a new technology for the provision of telephone service. But the Section 251(c)(2) interconnection mandate applies without regard to the technology used by the requesting carrier. The Commission must therefore reject these arguments.

First, the incumbent LECs and their allies argue that TWTC's facilities-based VoIP services are information services because they are offered to customers on an integrated basis with information services that utilize IP protocol, such as Internet access. This is simply incorrect. TWTC makes its Direct SIP Trunk service available as a stand-alone voice service, and most of its customers purchase it in this manner. Moreover, even when TWTC's Direct SIP Trunk service and TWTC's Converged Voice Services are offered as part of a package with Internet access and other services, the IP voice service remains entirely separate from the customer's perspective.

Second, the incumbent LECs and their allies argue that TWTC's facilities-based VoIP services include information service functionalities (e.g., accessing stored information to route calls and providing end users with enhanced calling features) that render TWTC's facilities-based VoIP services information services. But the Commission has already considered *every single one* of the voice functionalities offered in support of this argument, and it has concluded

that *none* of them renders TDM-based telephone service an information service. The Commission must therefore reach the same conclusion for TWTC's facilities-based VoIP services.

The argument that the net protocol conversion required to exchange traffic between facilities-based VoIP providers and other providers of telephone service renders facilities-based VoIP services information services fares no better. Opponents of the Petition acknowledge that this rule does not apply where providers of telephone service perform the protocol conversions to accommodate the piecemeal introduction of new technology. They argue that this principle does not apply here because TWTC's facilities-based VoIP services constitute a different category of service from TDM-based telephone service. But every functionality offered as part of VoIP service (e.g., enhanced voice mail, "click-to-call" conferencing, "find me/follow me" call forwarding and so on) is simply a technical upgrade on functionalities already made available by TDM-based telephone service providers. Moreover, these upgrades are exactly the types of changes introduced during the transition from analog to digital telephone service. The Commission treated protocol conversions required for that transition as part of the telephone service providers' telecommunications service. It must therefore treat the transition to IP technology in the same manner. Indeed, if the Commission does not do that, *it must logically treat all telephone services as information services* because all telephone service providers perform protocol conversions when transmitting calls between, for example, TDM-based service, IP-based service and wireless GSM- and CDMA-based services.

Third, the incumbent LECs and their allies barely attempt to show that TWTC's facilities-based VoIP services fall outside the definitions of telephone exchange service and

exchange access service. To the extent that they make such arguments, they rely on the assertion that VoIP service is an information service, which is incorrect.

Fourth, the incumbent LECs and their allies argue that facilities-based VoIP services are inseverably interstate and that, somehow, this means that facilities-based VoIP providers are ineligible for interconnection under Section 251(c)(2). There is no more basis for treating facilities-based VoIP services as inseverably interstate than for treating TDM-based telephone service as inseverably interstate. The Commission must treat both services the same way – as subject to the dual state and federal jurisdiction established in the Communications Act. But even if facilities-based VoIP services were inseverably interstate, that fact would have no bearing on the applicability of Section 251(c)(2). While the Commission has held that a provider of only interexchange services is ineligible for interconnection under Section 251(c)(2), it has consistently held that any provider of telephone exchange service or exchange access service has the right to interconnect under Section 251(c)(2). This is so regardless of the jurisdictional classification of such telephone exchange services or exchange access services.

Fifth, the incumbents and their allies repeat their usual policy arguments as to why there should be no regulation of any service provided using IP technology. These arguments are legally irrelevant because the Commission can only forbear from enforcing Section 251(c)(2) if it concludes that doing so is consistent with the requirements of Section 10 of the Communications Act,[4] and the incumbent LECs have not even attempted to make that showing. Nor could they. The incumbent LECs' continued market dominance and increased bargaining power as a result of RBOC consolidation make Section 251(c)(2) interconnection obligations just as necessary today as they were in 1996. Indeed, in the absence of a backstop requirement that

[4] *See* 47 U.S.C. § 160.

incumbent LECs provide interconnection for the transmission and routing of facilities-based VoIP services, incumbent LECs will exploit commercial negotiations to deny, delay and degrade IP-to-IP interconnection.

Finally, AT&T resorts to arguing that it is not required to provide IP-to-IP interconnection because its VoIP services are provided by a separate affiliate and not its incumbent LECs. This argument is flatly inconsistent with established precedent that the requirements of Section 251(c) apply to facilities transferred to and services provided by an incumbent LEC separate affiliate.

II. DISCUSSION.

A. Virtually The Entire Telecommunications Sector Agrees That The Commission Should Promptly Clarify That Incumbent LECs Are Required To Provide IP-to-IP Interconnection Under The Act.

Commenters from every relevant sector of the telecommunications industry—except of course incumbent LECs—agree that the Commission must clarify, as soon as possible, that incumbent LECs have a statutory duty to provide IP-to-IP interconnection. Competitive LECs, cable operators, wireless carriers and VoIP providers all urge the Commission to adopt such a clarification.[5] Consumer groups, consumer advocates, and state commissions also support such a clarification.[6] All of these parties agree that the Act's interconnection requirements are

[5] *See, e.g.*, COMPTEL Comments at iii; Megapath, PAETEC, RCN, and TDS Metrocom Comments at 2, 5 ("Megapath et al. Comments"); O1 and Vaya Comments at 1; Ymax Comments at 1; Cablevision and Charter Comments at 4-7; NCTA Comments at 3; Letter from Ad Hoc Telecommunications Users Committee, Google Inc., Skype Communications S.A.R.L., Sprint Nextel Corporation, and Vonage Holdings Corp., to Marlene H. Dortch, Secretary, FCC, WC Dkt. Nos. 10-90 et al., at 9 (filed Aug. 18, 2011) ("Ad Hoc, Google, Skype, Sprint & Vonage Letter").

[6] *See, e.g.*, Public Knowledge Comments at 3; NJ Division of Rate Counsel Comments at 8; Ohio PUC Comments at 5.

technology neutral[7] and that such requirements "should not be obscured by th[e] transition" to all-IP networks.[8] Moreover, numerous commenters agree with TWTC that Section 251(c)(2) of the Act requires incumbent LECs to provide interconnection at any technically feasible point for the transmission and routing of facilities-based VoIP services.[9] Indeed, as commenters have pointed out, the FCC has already expressly held that "'the interconnection obligations set forth in Section 251(c)(2) apply to packet-switched services as well as circuit-switched services.'"[10]

In addition, there is broad agreement among the commenters that clarifying incumbent LECs' obligation to provide IP-to-IP interconnection is essential to achieving the Commission's stated goal of accelerating the transition to all-IP networks.[11] As the Commission has expressly recognized, IP-to-IP interconnection can yield significant efficiencies and cost savings, "including reductions in circuit costs, switch costs, space needs, and utility costs, as well as the

---

[7] *See, e.g.*, Cablevision and Charter Comments at 5; COMPTEL Comments at iii & 3; Google Comments at 6; Megapath et al. Comments at 2; NCTA Comments at 3; O1 and Vaya Comments at 7; Ohio PUC Comments at 2; Ymax Comments at 2; *see also* Public Knowledge Comments at 12.

[8] Ad Hoc, Google, Skype, Sprint & Vonage Letter at 9.

[9] *See, e.g.*, Cablevision and Charter Comments at 4-7; COMPTEL Comments at iii; NCTA Comments at 3; Megapath et al. Comments at 2, 5; NJ Division of Rate Counsel Comments at 8; Ohio PUC Comments at 5; Public Knowledge Comments at 3; Ymax Comments at 1.

[10] *See* Cablevision and Charter Comments at 5 (quoting *Deployment of Wireline Services Offering Advanced Telecommunications Capability*, Order on Remand, 15 FCC Rcd. 385, ¶ 22 (1999), *remanded on other grounds*, *WorldCom, Inc. v. FCC*, 246 F.3d 690 (D.C. Cir. 2001)); *see also Deployment of Wireline Services Offering Advanced Telecommunications Capability*, Memorandum Opinion and Order and Notice of Proposed Rulemaking, 13 FCC Rcd. 24011, ¶ 48 (1998) (holding that the interconnection obligations of Section 251(c)(2) "apply to incumbents' packet-switched telecommunications networks and the telecommunications services offered over them").

[11] *See Connect America Fund; A National Broadband Plan for Our Future; Establishing Just and Reasonable Rates for Local Exchange Carriers; Developing a Unified Intercarrier Compensation Regime; Federal-State Joint Board on Universal Service; Lifeline and Link-Up*, Notice of Proposed Rulemaking and Further Notice of Proposed Rulemaking, 26 FCC Rcd. 4554, ¶¶ 10, 14 (2011) ("*USF/ICC Transformation NPRM*").

elimination of other signaling overhead."[12] Incumbent LECs, however, are refusing to provide IP-to-IP interconnection.[13] The record demonstrates that although IP-to-IP interconnection is technically feasible,[14] incumbent LECs are forcing interconnecting competitors to convert IP calls to TDM format, thereby depriving competitors of the efficiencies of IP technology, degrading voice quality, and increasing competitors' costs.[15] As a result, the incumbent LECs' refusal to provide IP-to-IP interconnection discourages investment in and deployment of IP networks.[16] In order to encourage carriers to upgrade to IP networks, the Commission should

[12] *Id.* ¶ 506.

[13] *See, e.g.*, Petition nn.12-13; Cablevision and Charter Comments at 4 & n.5 (citing comments submitted in WC Dkt. Nos. 10-90 et al. by Cox, EarthLink, PAETEC, and Sprint); COMPTEL Comments at 4; O1 and Vaya Comments at 4; Ymax Comments at 4-5.

[14] *See, e.g.*, Cablevision and Charter Comments at 6; *id.* at 7 ("Many ILECs currently provide IP-to-IP interconnection internally or to subsidiaries or affiliates."); NCTA Comments at 3; Megapath et al. Comments at 7; *see also id.* at 8 (explaining that "[i]f an incumbent LEC uses SIP, ATM, or other IP-to-IP interconnection methods in its network, then such method is demonstrably technically feasible and becomes a mandatory method and form of interconnection under the Commission's rules and the Act"); Ymax Comments at 3-5.

[15] *See, e.g.*, Cablevision and Charter Comments at 4-5 ("ILECs' failure to recognize their statutory duty to provide IP-to-IP interconnection causes inefficiency, increases VoIP providers' costs, and degrades call quality by adding unnecessary failure points. It requires VoIP providers to convert calls to TDM, a less efficient means of transmitting calls, and then purchase, lease, or build circuit switch-compatible trunks to deliver the call to the points of interconnection[]."); Google Comments at 5 (explaining that "IP interconnection barriers imposed by some local carriers can arbitrarily increase the operating costs of connecting network providers and degrade service quality, preventing them from realizing the full benefits of IP network upgrades"); NCTA Comments at 2-3; O1 and Vaya Comments at 3; Ymax Comments at 4-5; *id.* at 5 (explaining that "denial of IP interconnection . . . creates unnecessary costs that ultimately are passed through to customers," including investing and maintaining "dedicated circuit-switched trunking facilities that are much less efficient than packet-switched IP interconnection"); Letter from William H. Weber, Chief Administrative Officer, Cbeyond, Inc. et al., to Marlene H. Dortch, Secretary, FCC, GN Dkt. No. 09-51, at 2 (filed Sept. 22, 2009) (explaining that unnecessary protocol conversion "increases cost, reduces [voice] quality and discourages the wider deployment of NextGen networks by diverting investment" to "unnecessary media gateways").

[16] *See* Connecting America: The National Broadband Plan at 142 (Mar. 16, 2010) ("National Broadband Plan") (recognizing that requiring interconnecting carriers to convert VoIP calls to TDM is hindering the migration to all-IP networks).

therefore clarify that competitors have a statutory right to IP-to-IP interconnection.[17]

It is critical that the FCC make this clarification immediately. As TWTC and other parties have explained, without such a clarification, competitors will be unable to negotiate the next generation of interconnection agreements on terms and conditions that are suitable for IP network architectures.[18]

There is also agreement among numerous parties that after the FCC clarifies that incumbent LECs have a duty to provide IP-to-IP interconnection, it should leave the details of interconnection to the interconnecting parties.[19] That is, the Commission need not establish detailed technical rules governing IP-to-IP interconnection at this time. If competitors and incumbent LECs are unable to reach agreement on the details of IP-to-IP interconnection arrangements during bilateral negotiations, competitors can seek arbitration with the relevant state commission under Section 252 of the Act.[20]

---

[17] *See, e.g.*, Google Comments at 5 ("Clear obligations for IP interconnection will help the transition to modern networks."); O1 and Vaya Comments at 7; Public Knowledge Comments at 12 (clarification will "allow carriers to upgrade their equipment without penalty"); Wisconsin PSC Comments at 2; Ymax Comments at 1-2 (granting TWTC's Petition will further the FCC's policy goals, including eliminating regulatory disincentives to migrate to all-IP networks); *see also* Cablevision and Charter Comments at 5 (clarification "will provide a strong incentive for ILECs to upgrade their own networks in order to avoid the costs of converting traffic to TDM").

[18] *See* Petition at 5; COMPTEL Comments at 4; Cox Comments, WC Dkt. Nos. 10-90 et al., at 18 (filed Apr. 18, 2011) (explaining that "many interconnection agreements will expire in the next twelve to eighteen months" and absent such a clarification from the Commission, "it is likely that competitive providers will be forced to fight the issue of the right regulatory framework for [IP-to-IP] interconnection on a state-by-state basis").

[19] *See, e.g.*, Google Comments at 6; Megapath et al. Comments at 2; Ad Hoc, Google, Skype, Sprint & Vonage Letter at 9-10 ("To be clear, we are not calling on the FCC to adopt detailed rules governing IP-to-IP interconnection at this juncture. At this time, we believe that the details of IP-to-IP interconnection can be left to the negotiation process . . . .").

[20] *See* COMPTEL Comments at 5; Megapath et al. Comments at 2; O1 and Vaya Comments at 7.

B. TWTC Has The Right To IP-to-IP Interconnection Under Section 251(c)(2) Of The Act For The Transmission And Routing Of Its Facilities-Based VoIP Services.

As TWTC explained in the Petition,[21] it has the right to IP-to-IP interconnection under Section 251(c)(2) for the transmission and routing of its facilities-based VoIP services because those services are telecommunications services,[22] telephone exchange services,[23] and exchange access services[24] under the Act. The few commenters who oppose the Petition argue that TWTC's facilities-based VoIP services are information services[25] under the Act because the services (1) are not discrete, stand-alone voice service offerings, but rather are offered on an integrated basis with information services such as Internet access, (2) include other information service functionalities that render TWTC's facilities-based VoIP services information services, and (3) are entirely different services from traditional TDM-based voice services and the net protocol conversions provided with TWTC's facilities-based VoIP services therefore render them information services. As explained below, none of these arguments has any merit.

1. TWTC Offers Facilities-Based VoIP Services As Stand-Alone Telephone Services.

Opponents of the Petition argue that TWTC's facilities-based VoIP services are integrated with information services such as Internet access and are therefore part of an integrated information service.[26] This is incorrect.

---

[21] *See* Petition at 8-20.

[22] *See* 47 U.S.C. § 153(46) (defining "telecommunications service").

[23] *See id*. § 153(47) (defining "telephone exchange service").

[24] *See id*. § 153(16) (defining "exchange access" service).

[25] *See id*. § 153(20) (defining "information service").

[26] *See* VON Coalition Comments at 5; Verizon and Verizon Wireless ("Verizon") Comments at 18-19; AT&T Comments at 7-8.

The Commission has held that "merely packaging" an information service and a telecommunications service as a single, combined offering to the end user "does not create a single integrated service."[27] Rather, in assessing the classification of bundled services, "the relevant question is whether an entity is providing a 'single information service with communications and computing components' or 'two distinct services, one of which is a telecommunications service.'"[28] This question turns on the extent to which, from the end user's perspective, "the telecommunications transmission capability is 'sufficiently integrated' with the information service component 'to make it reasonable to describe the two as a single, integrated offering.'"[29]

For example, the Commission held that menu-driven prepaid calling cards that offer users the option of either making a telephone call or accessing stored information (e.g., sports scores, weather predictions, restaurant information, or entertainment information) consist of a stand-alone telecommunications service (telephone service) and a stand-alone information service (information access).[30] Because menu-driven prepaid calling card customers choose whether to use the telephone service or information access services at any one time, the telephone service and the information access services are not "'sufficiently integrated'" from an end user's perspective to "make it reasonable to describe the two as a single, integrated offering."[31] In

[27] *Regulation of Prepaid Calling Card Services*, Declaratory Ruling and Report and Order, 21 FCC Rcd. 7290, ¶ 14 (2006) ("*Prepaid Calling Card Order*"), *aff'd in part and rev'd in part,* 509 F.3d 531 (D.C. Cir. 2007).

[28] *Id*. (internal citation omitted).

[29] *Id*. (internal citation omitted).

[30] *Id.* ¶¶ 15-17.

[31] *Id.* ¶ 15.

addition, service providers market the calling cards "in large part" as offering telephone service.[32]

Similarly, when an information service, such as voice mail, is bundled with and used by the customer simultaneously with telephone service, the telephone service remains a stand-alone telecommunications service. As the Supreme Court explained in *Brand X*, this is because the service provider is offering a "transparent transmission path – telephone service – that transmits information independent of the information-storage capabilities provided by voice mail . . . [W]hen a person makes a telephone call, his ability to convey and receive information using the call is only trivially affected by the additional voice-mail capability."[33]

In contrast, the Supreme Court upheld the Commission's determination that broadband Internet access service is an information service.[34] The Court found reasonable the Commission's conclusion that the transmission and information processing components of the service were "sufficiently integrated" given that "'[a] consumer uses the high-speed wire always in connection with the information-processing capabilities provided by Internet access'" and "'the transmission is a necessary component of Internet access.'"[35]

TWTC's facilities-based VoIP services qualify as separate telecommunications services under this standard. To begin with, TWTC currently offers its Direct SIP Trunk service on a stand-alone basis. Thus, customers may, and usually do, purchase TWTC's Direct SIP Trunk service as a stand-alone service. It is therefore not used "always in connection with information processing capabilities provided by Internet access" or any other information service, and the

[32] *Id.* ¶ 13.

[33] *See Nat'l Cable & Telecomms. Ass'n v. Brand X Internet Servs.*, 545 U.S. 967, 998 (2005) ("*Brand X*").

[34] *See generally id.*

[35] *See id.* at 990 (internal citations omitted).

VoIP transmission is not a "necessary component of Internet access" or any other information service. It is an entirely distinct, stand-alone voice service.

AT&T's claim that the description of TWTC's service arrangement for Boise State University[36] shows that TWTC's Direct SIP Trunk service is offered as part of an information service is simply wrong. Unlike with most of TWTC's Direct SIP Trunk service customers, TWTC transmits Direct SIP Trunk service traffic and Internet access service traffic over the same transmission facility to Boise State. But these services remain entirely separate. In fact, the Boise State service arrangement is no different from service arrangements involving TWTC's Bundled Solutions, in which TWTC provides TDM-based voice service and Internet access service over the same transmission facility.[37] Integra offers a similar service.[38] There is no dispute that the TDM-based voice service remains a telecommunications service when provided in this manner. The same must be true of facilities-based VoIP services.

Nor is there any merit to some commenters' assertion that services like TWTC's Converged Voice Services ("CVS VoIP") that are offered as part of a bundle with Internet access service and IP Virtual Private Network ("VPN") service should be considered information services. In support of this assertion, commenters argue that CVS VoIP customers can utilize multiple services that access different websites or IP addresses during the same communication

---

[36] *See* AT&T Comments at 7-8 (citing tw telecom, "Boise State University Graduates to Largest National Education VoIP Deployment with tw telecom IP-based Solution," http://www.twtelecom.com/Documents/Resources/PDF/cs/CaseStudy_BoiseState3.pdf (last visited Aug. 30, 2011)). While this TWTC document refers to "SIP Trunk" service, this is the same service referred to herein as "Direct SIP Trunk" service.

[37] *See* tw telecom, Bundled Solutions, http://www.twtelecom.com/cust_solutions/services/packaged.html (last visited Aug. 25, 2011).

[38] *See* Integra Telecom, Bundled Solutions, http://www.integratelecom.com/services/bundled_solutions.php (last visited Aug. 25, 2011).

session and perform different types of communications simultaneously.[39] This argument is meritless.

As with TWTC's Direct SIP Trunk service, TWTC's CVS VoIP remains a discrete service when offered as part of a bundle of services. For example, TWTC describes "Converged Services" on its website as providing "everything you need for your voice, data and Internet communications."[40] The offering of "voice" service is clearly a distinct, entirely separate service. While TWTC "combines voice (local and long distance), secure Internet access, and IP VPN in a single, fully-managed solution," the "management" of the solution consists of allocating bandwidth to each of the three separate services as demand arises.[41] This is why TWTC refers to its CVS VoIP offering as "delivering *multiple services* over a single fully-managed connection."[42] It is not a single, combined service. In fact, TWTC separately describes its voice service: "Our voice service is designed to seamlessly support either traditional or IP phone systems."[43] Just as with menu-driven prepaid calling cards, TWTC's customers have the choice to use either CVS VoIP, Internet access or IP VPN at any time.

A customer can of course use the voice, Internet access and data transmission services transmitted over the same transmission facility at the same time. Thus, a TWTC customer can use its facilities-based VoIP service to talk on the phone with a colleague while simultaneously

---

[39] *See* VON Coalition Comments at 5; Verizon Comments at 18-19; AT&T Comments at 7-8.

[40] *See* tw telecom, Converged Services, http://www.twtelecom.com/Documents/Resources/PDF/MarketingCollateral/twProdSl_4804ConvServ_0410.1.pdf (May 2010) ("Converged Services Overview"). While this TWTC document refers to "Converged Services," the voice service component of this offering is the same service as the service referred to herein as "Converged Voice Services" or "CVS VoIP."

[41] *See id.*

[42] *See id.* (emphasis added).

[43] *See id.*

using Internet access to visit a web site. But a customer would do so by utilizing the two separate services simultaneously. The voice service and the Internet access service as provided to the end user are not integrated in any way. Again, this is exactly the way that customers use TWTC's as well as Integra's bundled TDM-based voice and Internet access services in which the voice component is indisputably a stand-alone telephone (and telecommunications) service. In both cases, the end user receives voice and Internet access services as entirely separate services. Thus, TWTC's CVS VoIP is not used "always in connection with information processing capabilities" and the VoIP transmission is not a "necessary component of" any information service.

2. TWTC's Stand-Alone Facilities-Based VoIP Services Are Telecommunications Services.

As explained in the Petition, TWTC's stand-alone, facilities-based VoIP services meet the statutory definition of telecommunications service.[44] That is because the services consist of an offer (for a fee directly to the public) to transmit voice messages of a customer's choosing without changing the form or content of those messages in any meaningful respect.[45] Indeed, as explained in the Petition, the functionalities that TWTC offers to end-user customers of its facilities-based VoIP services are essentially the same as the functionalities it offers to end-user customers of its TDM-based telephone service.[46] There is simply no basis for concluding that these functionally equivalent services should be classified differently under the Act. Both are telecommunications services.

---

[44] *See* Petition at 9-12.

[45] *See id.* at 10.

[46] *See id.* at 10-11.

In fact, the Commission has repeatedly held that end users view interconnected VoIP services (including both facilities-based VoIP services and "over-the-top" VoIP services) as functionally equivalent to TDM-based telephone service. The Commission has used this fact as the basis for imposing numerous regulations applicable to providers of telecommunications services on providers of interconnected VoIP services. These regulations include discontinuance obligations, number portability requirements, privacy requirements, universal service contribution obligations, Communications Assistance for Law Enforcement Act ("CALEA") requirements, and E911 obligations. In some of the relevant orders, the Commission has held that:

- From the perspective of a customer making an ordinary telephone call, we believe that interconnected VoIP service is functionally indistinguishable from traditional telephone service. It therefore is reasonable for American consumers to have similar expectations for these services [such as advanced notice before discontinuance of service].[47]

- [It is] reasonable for American consumers to expect that their telephone calls are private irrespective of whether the call is made using the services of a wireline carrier, a wireless carrier, or an interconnected VoIP provider, given that these services, from the perspective of a customer making an ordinary telephone call, are virtually indistinguishable.[48]

- [M]uch of the appeal of [interconnected VoIP] services to consumers derives from the ability to place calls to and receive calls from the PSTN, which is supported by universal service mechanisms.[49]

- We determine that a service that is increasingly used to replace analog service is exactly the type of service that Congress intended [CALEA] to reach. Moreover,

[47] *IP-Enabled Services*, Report and Order, 24 FCC Rcd. 6039, ¶ 12 (2009).

[48] *Implementation of the Telecommunications Act of 1996; Telecommunications Carriers' Use of Customer Proprietary Network Information; IP-Enabled Services*, Report and Order and Further Notice of Proposed Rulemaking, 22 FCC Rcd. 6927, ¶ 56 (2007).

[49] *Universal Service Contribution Methodology et al.*, Report and Order and Notice of Proposed Rulemaking, 21 FCC Rcd. 7518, ¶ 43 (2006).

commenters offer no evidence to dispute the use of interconnected VoIP to obtain voice service capability, among other features.[50]

- [A] service that enables a customer to do everything (or nearly everything) the customer could do using an analog telephone, and more, can at least reasonably be expected and required to route 911 calls to the appropriate destination.[51]

The Commission has also consistently held that facilities-based VoIP services belong in the same product market as traditional TDM-based telephone service on the basis that consumers view facilities-based VoIP services as a substitute for TDM-based telephone service.[52]

Even the incumbent LECs agree that end-user customers perceive facilities-based VoIP services and "over-the-top" VoIP services to be substitutes for traditional TDM-based telephone service. Verizon and legacy Qwest have strenuously argued this point in previous Commission filings.[53]

---

[50] *Communications Assistance for Law Enforcement Act and Broadband Access Services*, First Report and Order and Further Notice of Proposed Rulemaking, 20 FCC Rcd. 14989, ¶ 42 (2005).

[51] *IP-Enabled Services; E-911 Requirements for IP-Enabled Service Providers*, First Report and Order and Notice of Proposed Rulemaking, 20 FCC Rcd. 10245, ¶ 23 (2005).

[52] *See Petition of Qwest Corporation for Forbearance Pursuant to 47 U.S.C. § 160(c) in the Phoenix, Arizona Metropolitan Statistical Area*, Memorandum Opinion and Order, 25 FCC Rcd. 8622, ¶ 54 (2010) ("As in the past, we find that mass market consumers view facilities-based VoIP services, such as those offered by cable providers, as sufficiently close substitutes for local service to include them in the relevant product market."); *SBC Communications Inc. and AT&T Corp. Applications for Approval of Transfer of Control*, Memorandum Opinion and Order, 20 FCC Rcd. 18290, ¶¶ 86-87 (2005); *Verizon Communications Inc. and MCI, Inc. Applications for Approval of Transfer of Control*, Memorandum Opinion and Order, 20 FCC Rcd. 18433, ¶¶ 87-88 (2005).

[53] *See, e.g.*, Petition of Qwest Corporation for Forbearance Pursuant to 47 U.S.C. § 160(c) in the Phoenix, Arizona Metropolitan Statistical Area, WC Dkt. No. 09-135, Decl. of Robert H. Brigham, ¶ 26 (filed Mar. 24, 2009) ("From a customer perspective, VoIP service functions in a manner similar to standard circuit switched telephony, and allows a customer to utilize a standard telephone set to originate and receive telephone calls using the same dialing patterns that are used for standard wireline telephone service."); Petition of the Verizon Telephone Companies for Forbearance Pursuant to 47 U.S.C. § 160(c) in Cox's Service Territory in the Virginia Beach Metropolitan Statistical Area, WC Dkt. No. 08-49, at 16 (filed Mar. 31, 2008) (arguing that VoIP services "are viewed as close substitutes for traditional voice service"); Petition of the Verizon Telephone Companies for Forbearance Pursuant to 47 U.S.C. § 160(c) in

Consumers' perception of interconnected VoIP services and TDM-based voice services as functionally indistinguishable is not surprising given that interconnected VoIP services are marketed in large part as offering consumers the ability to make and receive traditional telephone calls. For example, the websites of facilities-based VoIP service providers and over-the-top VoIP service providers state as follows:

- What is Cox phone service? Cox phone is the same primary line telephone service you've known for years inside your home . . . .[54]

- Just like traditional wire line services, Charter Phone works through regular telephone jacks and phones, and provides access to 911 emergency services and directory listings. The difference between Charter Phone and the phone companies' traditional wire line service is that Charter takes advantage of the latest technology, which allows us to deliver crystal-clear calls and advanced calling features. Cable phone service uses Internet protocol for transporting calls over our own private network.[55]

- Digital Home Phone is a multi-featured, residential phone service available from Time Warner Cable. Digital Home Phone service is as easy to use as your existing phone service from your traditional phone company.[56]

(continued)

the Providence Metropolitan Statistical Area, WC Dkt. No. 06-172, at 6 (filed Sept. 6, 2006) ("There is likewise no question that these cable operators are offering voice service that is comparable to Verizon's."); *id.*, Attachment: Decl. of Quentin Lew et al., ¶ 34 ("Many customers view VoIP service as a replacement for their primary telephone line."); Preliminary Reply Brief of AT&T and Verizon at 14, *Qwest Corp. v. FCC*, No. 10-9543 (10th Cir. Feb. 22, 2011) ("Millions of consumers are also replacing their traditional wireline voice service with 'over-the-top' VoIP services, which allow consumers to use a broadband Internet connection to place and receive voice communications while using additional advanced features.").

[54] Cox Communications, Residential Phone Answers Overview, http://ww2.cox.com/residential/northernvirginia/phone/answers-about-phone.cox (last visited Aug. 25, 2011).

[55] Charter Communications, Charter Phone Frequently Asked Questions, http://www.myaccount.charter.com/customers/support.aspx?supportarticleid=1351#ChartervsTraditional (last visited Aug. 25, 2011).

[56] Time Warner Cable, Digital Home Phone Frequently Asked Questions, What is Digital Home Phone?, http://www.timewarnercable.com/neowpa/site.faqs/DigitalHom/GeneralQue/What-is-Digital-Home-Phone (last visited Aug. 25, 2011).

- [Cablevision] Optimum Voice uses state-of-the-art digital technology. The same technology that delivers Optimum Online high-speed Internet access to your home. Calls are made with the same phones and jacks you use today, and in most cases you can keep your phone number (or get a new one).[57]

- AT&T U-verse Voice uses Voice over Internet Protocol (VoIP) to convert your voice into data. Your calls are sent and received over your High speed Internet connection, but you can keep your phones – they'll work just fine. You can keep the phone number you already have or request a new one.[58]

- Vonage routes your phone calls over the Internet using Voice over Internet Protocol, rather than telephone lines. But even though your phone uses the Internet, it has nothing to do with your computer. In fact, your computer doesn't have to be on to use Vonage. The people you call don't need to have Vonage or the Internet to get your call – just a phone. And when someone calls you, the phone rings as usual.[59]

Some commenters nevertheless argue that certain functionalities of TWTC's facilities-based VoIP services render them information services. These arguments come in broadly two forms.

First, some commenters argue that the voice-related features and functionalities that TWTC offers as part of its facilities-based VoIP services render them information services. For example, the VON Coalition vaguely asserts that VoIP "customers with integrated calling and messaging features and capabilities" are able to "manage their communications preferences and functions using their phone, computer, or television."[60] It is not entirely clear what the VON

---

[57] Cablevision, Optimum Voice, How it Works, http://www.optimum.com/voice/how.jsp (last visited Aug. 25, 2011).

[58] AT&T, U-Verse Voice Overview, http://www.att.com/shop/home-phone/ (last visited Aug. 25, 2011).

[59] Vonage, Voice over Internet Protocol from Vonage, How VoIP Works, http://www.vonage.com/how_vonage_works/ (last visited Aug. 25, 2011); *see also* Vonage Holdings Corp., Annual Report (Form 10-K), at 2 (filed Feb. 17, 2011) ("Our broadband telephone replacement services provide a complete solution, including E-911 capability and the ability to port a customer's telephone number . . . .").

[60] VON Coalition Comments n.23.

Coalition is referring to, but it is clear that the integration of "calling and messaging functions" in an IP environment does not change the fundamental nature of telephone service. For example, integrated messaging services, in which VoIP service providers enable customers to transmit voice or text messages associated with voice calls (e.g., to a computer or television) is simply an improvement on traditional voice mail. As explained, a voice service customer's "ability to convey and receive information using the call is only trivially affected by the additional voice-mail capability" or similar messaging capability.[61]

The VON Coalition next asserts that all VoIP services should be deemed information services because service providers access information stored in electronic databases that associate IP addresses with 10-digit telephone numbers so that calls can be routed on circuit switches and so that service providers can transmit telephone numbers as part of caller ID.[62] But this functionality is no different from numerous other functionalities that the Commission has deemed telecommunications services when provided as part of telephone service.

As the Commission has explained, "[t]he offering of store and forward services should not be confused with the use of store and forward technology in routing messages through the network as part of a basic [(i.e., telecommunications)] service. Message or packet switching, for example, is a store and forward technology that may be employed in providing basic services."[63] Thus, the Commission classifies as so-called "adjunct-to-basic" telecommunications services functionalities that fall within the literal definition of "information service" but that (1) facilitate

[61] *See Brand X*, 545 U.S. at 998.

[62] *See* VON Coalition Comments n.23.

[63] *Amendment of Section 64.702 of the Commission's Rules and Regulations (Second Computer Inquiry),* Final Decision, 77 FCC 2d 384, n.35 (1980) (emphasis omitted).

the establishment of a transmission path over which a telephone call may be completed and (2) do not alter the fundamental character of telephone service.[64]

The Commission's review of incumbent LEC speed dialing services under this adjunct-to-basic doctrine confirms that association of IP addresses and 10-digit telephone numbers is an adjunct-to-basic telecommunications service. In using the speed dialing service reviewed by the Commission, customers stored a list of telephone numbers in a database in the incumbent LEC central office.[65] When using the speed dialing feature, the customer transmitted a one- or two-digit number to the central office database that was then associated with a 10-digit number by the incumbent LEC for the purpose of routing calls and transmitting caller ID information.[66] The Commission held that, although speed dialing in this context met the literal definition of an information service (or an "enhanced service" in the parlance of the time), it is an adjunct-to-basic telecommunications service because the service "facilitate[d] establishment of a transmission path over which a telephone call may be completed," and it did not change the basic nature of telephone service.[67]

---

[64] *See North American Telecommunications Association; Petition for Declaratory Ruling Under Section 64.702 of the Commission's Rules Regarding the Integration of Centrex, Enhanced Services, and Customer Premises Equipment*, Memorandum Opinion and Order, 101 FCC 2d 349, ¶¶ 25, 27 (1985) ("*NATA Order*"). The definition of information service states that a functionality that meets the literal definition of information service does not qualify as such if it is used "for the management, control, or operation of a telecommunications system or the management of a telecommunications service." 47 U.S.C. § 153(20). The Commission has held that this "'telecommunications management exception'" codifies the adjunct-to-basic doctrine. *See Implementation of the Non-Accounting Safeguards of Sections 271 and 272 of the Communications Act of 1934, as amended*, First Report and Order and Further Notice of Proposed Rulemaking, 11 FCC Rcd. 21905, ¶ 107 (1996) ("*Non-Accounting Safeguards Order*").

[65] *See NATA Order* ¶ 25.

[66] *See id.*

[67] *See id.* ¶¶ 25-26.

The association of one- or two-digit codes with 10-digit telephone numbers performed in speed dialing is indistinguishable from the association of IP addresses with 10-digit telephone numbers performed by VoIP providers. As in the case of speed dialing, the function performed by VoIP providers is used solely to "facilitate establishment of a transmission path over which a telephone call may be completed," and it does not change the basic nature of telephone service. This functionality must therefore be classified as an adjunct-to-basic telecommunications service.[68]

Nor is there merit to commenters' assertion that TWTC's facilities-based VoIP services should be classified as information services because they enable customers to set up their own service features, such as "click-to-call," call forwarding (or "find me/follow me" as it is called by TWTC), call screening, incoming and outgoing call logs, assignment of distinctive ring tones for different callers, and voice mail.[69] The FCC has held that offering customers the ability to establish their own voice service features does not cause telephone service to be classified as an information service.[70] In addition, the Commission has held that call forwarding,[71] services that enable call screening,[72] assignment of distinctive ring tones for callers[73] and accessing incoming

[68] It is also worth noting that carriers must access databases to obtain information associated with telephone numbers to ensure proper routing of calls. This is exactly how calls to telephone numbers in NXXs subject to number portability and number pooling are transmitted today. Again, this functionality has not changed the basic telecommunications service classification of telephone service. The Commission must treat the association of IP addresses with telephone numbers in the same manner.

[69] *See* Alcatel-Lucent Comments at 7-8; VON Comments at 5-6; Verizon Comments at 18; AT&T Comments at 7-8.

[70] *See NATA Order* ¶ 35 (finding that, where the "customer's interaction with the information in the central office computer serves no purpose beyond facilitating use of basic telephone service," such interaction is an adjunct-to-basic telecommunications service).

[71] *See id.* ¶ 26 (call forwarding is a telecommunications service);

[72] *See id.* ¶ 46 (a service that enables a "customer to block unwanted calls from designated numbers" is a telecommunications service).

and outgoing calling information[74] are all telecommunications services under the adjunct-to-basic doctrine. Finally, as explained above, offering voice mail, an information service, with telephone service does not change the telecommunications service classification of telephone service.

Second, some commenters argue that TWTC's facilities-based VoIP services are information services because TWTC must perform net protocol conversions (e.g., between IP and TDM) to provide the services.[75] These commenters assert that the rule under which such conversions are considered part of a telecommunications service when used for the piecemeal introduction of new technology ("New Technology Rule")[76] does not apply because TWTC's facilities-based VoIP services constitute a different service from TDM-based voice service.[77] This is simply incorrect.

In adopting the New Technology Rule, the Commission explained that, during the transition of telephone service from analog to digital, there would be a need for telephone companies to provide a net protocol conversion between subscribers using analog service and digital service.[78] Such protocol conversions fall within the literal definition of an information

---

(continued)

[73] *See id.* (a service that enables a "customer to specify telephone numbers that will cause a unique ring or call waiting tone" is a telecommunications service).

[74] *See id.* ¶ 36 (a service that enables a "customer to obtain traffic information directly from his stations" is a telecommunications service).

[75] *See* Alcatel-Lucent Comments at 6-7; VON Comments at 4; AT&T Comments at 5-6; Verizon Comments at 14-16.

[76] *See Non-Accounting Safeguards Order* ¶ 106; *see also Communications Protocols under Section 64.702 of the Commission's Rules and Regulations*, Memorandum Opinion, Order and Statement of Principles, 95 FCC 2d 584, ¶ 16 (1983) ("*Protocols Order*").

[77] *See* Verizon Comments at 16.

[78] *Protocols Order* ¶ 16.

service. Nevertheless, the Commission found that it is "important that this potential result does not create disincentives for introduction of new technology. Accordingly, in circumstances involving no change in an existing service, but merely a change in electrical interface characteristics to facilitate transitional introduction of new technology," the Commission would view net protocol conversions as part of the telecommunications service.[79]

Net protocol conversions provided as part of facilities-based VoIP services do not transform those services into information services because facilities-based VoIP services are merely the result of a transition to a new "technology" for providing voice service. There is not a change in the "service" at issue. The major difference between TWTC's IP-based voice service and TDM-based voice service has no bearing on the characteristics of the services as offered to end-user customers. That is, TWTC is able to provision IP-based voice service along with Internet access and data transmission service over the same transmission facilities more efficiently than is the case with TDM-based voice service. As explained, however, TWTC's facilities-based VoIP services remain stand-alone services when offered in this manner.

To the extent that there are differences between TWTC's facilities-based VoIP services and its TDM-based voice services, those differences generally concern how—not what—features and functionalities are offered. Indeed, opponents of the Petition cannot point to a single functionality offered as part of VoIP service that is anything other than an incremental upgrade to functionalities offered as part of TDM-based voice service. Click-to-call is an incremental upgrade on speed dialing. Find me/follow me is an incremental upgrade on call forwarding. Enabling customers to specify and modify the functionalities they receive using IP is an incremental upgrade on the same customer-control features available in a TDM environment (as

[79] *Id.* ¶ 17.

discussed above). These upgrades are the result of the use of a more efficient technology to provide voice service.

These are precisely the kinds of changes to telephone service that carriers introduced during the transition from analog to digital service, the transition that the Commission deemed to qualify for the New Technology Rule. The transition from analog to digital technology enabled carriers to provide voice services less expensively in part because voice signals could be interleaved with other digital signals – such as those from computers or facsimile machines.[80] In addition, digital technology enabled telephone service providers to provide custom local area signaling service or "CLASS" features such as caller ID, call forwarding and so on.[81] The introduction of these new capabilities represented at least as significant an innovation in the provision of telephone service as the transition from TDM-based voice service to IP-based voice service. Nevertheless, the Commission considered the provision of digital telephone service to be the same "service" as the provision of analog telephone service for purposes of the New Technology Rule.[82]

---

[80] *See* NEWTON'S TELECOM DICTIONARY 843 (25th ed. 2009) (entry for "PCM" (Pulse Code Modulation)) (describing the ability to "interleave" voice and other digital signals, such as those from computers or facsimile machines, as a major advantage of digital switches).

[81] *See* Walter Ciciora et al., MODERN CABLE TELEVISION TECHNOLOGY: VIDEO, VOICE AND DATA COMMUNICATIONS 237 (2d ed. 2004) ("Custom local area signaling services (CLASS) are a set of advanced services provided by modern digital switches and the expanded intercommunication between them. These services include automatic callback, automatic recall, calling number delivery (also known as caller ID), customer-originated trace, distinctive ringing, selective call forwarding, and selective call rejection."); Bob Wallace, *Pac Bell $1b Switch Plan Mapped Out*, NETWORK WORLD, Feb. 1, 1993 ("Pacific Bell last week announced a $1 billion analog central office switch replacement plan that will let the company provide digital Centrex, Integrated Services Digital Network and Custom Local Area Signaling Services (CLASS). . . . The new [digital] switches will pave the way for the delivery of CLASS services, such as priority ringing, select call forwarding, repeat dialing, call trace, call screen and call return . . . .").

[82] It is also worth noting that the gradual deployment of IP in the voice network has been accomplished in the same way as was the case with the deployment of digital technology. In both cases, carriers initially deployed the new technology only in the core of the network, where

TWTC's promotional literature on its website reflects its view that IP-based voice and TDM-based voice belong in the same service category. If the features and functionalities of IP-based voice service were materially more advanced than those of its TDM-based voice services, TWTC would of course have trumpeted those advantages as another reason to buy CVS VoIP. But it does no such thing. TWTC does not promote the difference between the features and functionalities of IP-based voice as opposed to TDM-based voice. Instead, in its description of CVS VoIP, TWTC focuses on the efficiencies of providing voice, Internet access and IP VPN on the same efficient and flexible managed network connection.[83] In fact, TWTC essentially equates IP-based and TDM-based voice by stating that its CVS VoIP "is designed to seamlessly support either traditional or IP phone systems."[84]

Opponents of the Petition also make no attempt to address the fact that deregulation of voice service where service providers offer net protocol conversions would essentially eliminate regulation of all voice service in this country. Net protocol conversions have been necessary for years to exchange traffic between and among TDM-based and IP-based wireline as well as

---

(continued)

the efficiencies yielded by improvements in technology are greatest. *See Petition for Declaratory Ruling that AT&T's Phone-to-Phone IP Telephony Services are Exempt from Access Charges*, Order, 19 FCC Rcd. 7457 (2004) ("*IP-In-The-Middle Order*") (describing initial deployment of IP technology in the long-haul, core of the network rather than in end-user connections); *Protocols Order* ¶ 16 ("[D]igital transmission technology has for some time been used within the telephone network to support voice transmission, but the network interfaces to subscriber equipment have continued to be analog. Requisite analog-to-digital and digital-to-analog conversion equipment has been used within the network, but the internal digital signals have not been manifested at subscribers' loop interfaces. However, there is currently a trend towards the use of digital loops which will interface with customer premises equipment using a digital protocol interface."). They then gradually deployed the technology at the edge, to interface with customer premises equipment. There is every reason to treat such gradual technology upgrades in a consistent manner for regulatory purposes.

[83] *See* Converged Services Overview.

[84] *See id.*

GSM-based and CDMA-based mobile wireless telephone services. Under the logic of the opponents' argument, each of these services would be viewed as different services, and every telephone service offering in the country would be classified as an information service. This cannot be what the Commission intended when it adopted the general rule treating net protocol conversions as information services.[85]

For all of these reasons, the Commission must treat the transition from TDM technology to IP technology as a means of providing telephone service as merely a transition to a new technology to provide the same service. Under the New Technology rule, therefore, net protocol conversions employed to provide facilities-based VoIP services and to ensure the delivery of calls between end users using TDM and IP technologies should be treated as part of the facilities-based VoIP telecommunications service.[86]

3. TWTC's Facilities-Based VoIP Services Are Telephone Exchange Services and Exchange Access Services.

As TWTC explained in its Petition, the characteristics of its facilities-based VoIP services fit squarely within the statutory definitions of telephone exchange service and exchange access service.[87] It is notable that no commenter other than Verizon disputes this conclusion. Verizon argues that TWTC's facilities-based VoIP services cannot qualify as either telephone

[85] *See Non-Accounting Safeguards Order* ¶ 104.

[86] Several commenters also rely on decisions in which courts have held that VoIP is an information service as a basis for arguing that the Commission must reach the same conclusion. *See* Alcatel-Lucent Comments at 6-7; VON Comments at 6. But "[a] court's prior judicial construction of a statute trumps an agency construction otherwise entitled to *Chevron* deference only if the prior court decision holds that its construction follows from the unambiguous terms of the statute and thus leaves no room for agency discretion." *Brand X*, 545 U.S. at 982. The terms "telecommunications service" and "information service" are ambiguous, and the Commission's application of those terms to specific facts is therefore subject to "*Chevron* deference." *See id.* at 989, 992-96. Accordingly, prior court decisions classifying VoIP services are not binding on the Commission.

[87] *See* Petition at 15-20.

exchange services or exchange access services because they are information services, not telecommunications services.[88] As discussed, however, TWTC's facilities-based VoIP services satisfy the definition of telecommunications service under the Act.[89] Moreover, as explained above, neither the voice-related features and functionalities that TWTC offers as part of its facilities-based VoIP services nor the net protocol conversions provided as part of facilities-based VoIP services change the classification of those services as telecommunications services.[90]

C. Classification Of Facilities-Based VoIP Services As Inseverably Interstate Services Would Have No Bearing On TWTC's Right To Obtain Interconnection Under Section 251(c)(2).

Several parties argue that facilities-based VoIP services should be treated as inseverably interstate and that, under the Commission's *Local Competition Order*, a carrier may not obtain interconnection for interstate services.[91] This argument is wrong on both the facts and the law.

To begin with, there is no basis for treating facilities-based VoIP services as inseverably interstate. TWTC and Cbeyond have repeatedly explained in other Commission proceedings that facilities-based VoIP services should be subject to dual federal-state jurisdiction, just as is the case with TDM-based telephone service, and there is no need to repeat this explanation again here.[92]

---

[88] *See* Verizon Comments at 19-21.

[89] *See supra* Part II.B.2 & n.44.

[90] *See supra* Part II.B.2. As TWTC also explained in the Petition, the Commission has already classified so-called IP-in-the-middle telephone services as telecommunications services. *See* Petition at 2-3 (citing *IP-In-The-Middle Order*). To the extent that such services qualify as telephone exchange services or exchange access services, they automatically qualify for interconnection under Section 251(c)(2).

[91] *See* Alcatel-Lucent Comments at 8-9; AT&T Comments n.24.

[92] *See, e.g.*, Letter from Thomas Jones, Counsel for tw telecom inc., to Marlene H. Dortch, Secretary, FCC, CC Dkt. Nos. 01-92 et al., WC Dkt. Nos. 04-36 et al., at 2-8 (filed Oct. 23, 2008) (explaining that fixed VoIP service is not inseverable because (1) there is no meaningful difference, at least for purposes of jurisdictional analysis, between the communications initiated

But even if facilities-based VoIP services were classified as inseverably interstate, such a classification would not affect an incumbent LEC's duty to provide interconnection under Section 251(c)(2). In the *Local Competition Order*, the Commission held that any carrier "that offer[s] access services in competition with an incumbent LEC" is "eligible to obtain interconnection pursuant to section 251(c)(2)."[93] Of course, providers of access services can do so by offering solely interstate access service. It is clear, therefore, that a carrier may offer solely interstate service and still be eligible for Section 251(c)(2) interconnection.

The Commission clarified, however, that a telecommunications carrier seeking interconnection only for the purposes of transmitting and routing interexchange services is not offering telephone exchange service or exchange access service. Accordingly, such a carrier is ineligible for interconnection under Section 251(c)(2). The Commission explained its reasoning as follows:

> Section 251(c)(2) states that incumbent LECs have a duty to interconnect with telecommunications providers "for the transmission and routing of telephone exchange service and exchange access." A telecommunications carrier seeking interconnection only for interexchange services is not within the scope of this statutory language because it is not seeking interconnection for the purpose of providing telephone exchange service. Nor does a carrier seeking interconnection of interstate traffic only – for the purpose of providing interstate services only –

(continued)

by fixed VoIP subscribers and those initiated by circuit-switched telephone service subscribers; and (2) there is no meaningful difference for these purposes between the network architectures utilized to provide fixed VoIP service and circuit-switched telephone service); Comments of tw telecom inc., One Communications Corp. and Cbeyond, Inc., CC Dkt. Nos. 01-92 et al., WC Dkt. Nos. 04-36 et al., at 14-15 (filed Nov. 26, 2008); Reply Comments of tw telecom inc., One Communications Corp. and Cbeyond, Inc., CC Dkt. Nos. 01-92 et al., WC Dkt. Nos. 04-36 et al., at 11-12 (filed Dec. 22, 2008).

[93] *See Implementation of the Local Competition Provisions in the Telecommunications Act of 1996; Interconnection Between Local Exchange Carriers and CMRS Providers*, First Report and Order, 11 FCC Rcd. 15499, ¶ 191 (1996) ("*Local Competition Order*") (subsequent history omitted).

> fall within the scope of the phrase "exchange access." Such a would-be interconnector is not "offering" access to telephone exchange services. As we stated in the *NPRM*, an IXC that seeks to interconnect solely for the purpose of originating and terminating its own interexchange traffic is not offering access, but rather is only obtaining access for its own traffic.[94]

Some parties have relied on the phrase "for the purpose of providing interstate services only" in this passage to argue that TWTC would not be eligible for interconnection under Section 251(c)(2) if VoIP service were classified as inseverably interstate.[95] This would purportedly be true even if a provider of facilities-based VoIP services is deemed to be providing telephone exchange service and/or exchange access service. But this argument is inconsistent with the Commission's finding in the same paragraph of the *Local Competition Order* that a provider of access service is eligible for interconnection under Section 251(c)(2) because, as explained, exchange access service can be provided on an interstate basis only. It is also contrary to the terms of Section 251(c)(2), which grants interconnection rights to providers of telephone exchange service and providers of exchange access service without any limitation on whether such services are intrastate or interstate in nature.[96]

In any event, the broader context of this passage shows that the Commission merely intended "interstate services" to refer to interstate, interexchange services. The point of the Commission's discussion is that carriers may not obtain interconnection under Section 251(c)(2) solely for the purpose of transmitting and routing interexchange service because interexchange service is neither telephone exchange service nor exchange access service. In explaining this principle, the Commission stated that a carrier that seeks interconnection "only for interexchange

---

[94] *Id.*

[95] *See* Alcatel-Lucent Comments at 8-9; AT&T Comments n.24.

[96] *See AT&T Corp. v. Iowa Utils. Bd.*, 525 U.S. 366 (1999) (holding that the provisions of Section 251 apply to both intrastate and interstate services).

services" is not providing telephone exchange service. In the next sentence, the Commission explained that the same carrier also is not providing exchange access. Instead of stating that such a carrier seeks interconnection "only for interexchange services," the Commission referred to the carrier in question as one that is "seeking interconnection of interstate traffic only – for the purpose of providing interstate services only." Because it is obvious that the Commission meant to refer to the same class of carriers as in the previous sentence, the only logical interpretation of this phrase is that it refers to a provider of interstate, interexchange service. Because a provider of facilities-based VoIP services provides both telephone exchange services and exchange access services, this exclusion does not limit a facilities-based VoIP services provider's eligibility for interconnection under Section 251(c)(2).

D. The Incumbent LECs' Arguments Against Enforcing Section 251(c)(2) With Regard To Facilities-Based VoIP Services That Qualify As Telephone Exchange Services Or Exchange Access Services Are Both Legally Irrelevant And Factually Meritless.

The commenters who oppose the Petition present a list of reasons why the incumbent LECs should not be required to fulfill their legal obligation to provide interconnection even if facilities-based VoIP services are telephone exchange services or exchange access services. These boilerplate excuses should be rejected.

1. The Incumbent LECs' Policy Arguments In Opposition To The Petition Are Meritless.

Opponents of the Petition argue that it would be bad policy for the Commission to require that incumbent LECs comply with Section 251(c)(2). These arguments are irrelevant. The requirement that incumbent LECs provide "interconnection . . . for the transmission and routing of telephone exchange service and exchange access" under Section 251(c)(2) applies

automatically by operation of the statute.[97] That is, once a service provider is deemed to be providing telephone exchange service or exchange access service, the service provider has the right to interconnection under Section 251(c)(2). Under the holding in *Ass'n of Commc'ns Enters. v. FCC*, 235 F.3d 662 (D.C. Cir. 2001) ("*ASCENT*"), the only way for the incumbent LECs to seek relief from the Section 251(c)(2) interconnection obligation for the transmission and routing of a service that qualifies as telephone exchange service or exchange access service is to file a petition for forbearance.

In the order on review in *ASCENT*, the FCC had construed the phrase "successor or assign" in the definition of incumbent LEC in Section 251(h) of the Act to exclude a separate affiliate that provided advanced services.[98] In so doing, the Commission allowed an incumbent LEC to avoid the duty to offer for resale under Section 251(c)(4) advanced services provided by the separate affiliate.[99] The D.C. Circuit held that the FCC acted unreasonably in interpreting the Act in a way that relieved incumbent LECs of the Section 251(c)(4) resale obligation.[100] The court explained that the only way for the Commission to achieve that result was to expressly exercise its forbearance authority under Section 10.[101] The same holding applies here with respect to the interconnection obligation under Section 251(c)(2). If an incumbent LEC wants to escape its obligations under Section 251(c)(2), it must file a petition for forbearance seeking this outcome. Given that the opponents of the Petition have made no attempt to meet the

[97] 47 U.S.C. § 251(c)(2).

[98] *See Ass'n of Commc'ns. Enters. v. FCC*, 235 F.3d 662, 665 (D.C. Cir. 2001) ("*ASCENT*").

[99] *See id*.

[100] *See id*. at 668.

[101] *See id.* at 665-66.

requirements of Section 10, their policy arguments raised in opposition to the Petition are irrelevant.

In any event, the incumbent LECs' policy arguments are meritless. *First*, contrary to the incumbent LECs' claims,[102] TWTC is not seeking interconnection with an as-yet unbuilt network. The incumbent LECs have repeatedly told investors, customers, and this Commission that they have been deploying IP networks and that they offer VoIP services to residential and business customers over those IP networks. For example, AT&T and Verizon have been rapidly expanding their IP-based U-verse and FiOS networks, respectively,[103] and they offer VoIP home phone services over those networks.[104] AT&T and Verizon also offer numerous facilities-based

---

[102] *See* AT&T Comments at 9-10; USTelecom Comments at 3-4; Verizon Comments at 8-9.

[103] *See, e.g.*, Comments of Verizon and Verizon Wireless on Under-Developed Issues in the Open Internet Proceeding, GN Dkt. No. 09-191 & WC Dkt. No. 07-52, at 5 (filed Oct. 12, 2010) ("Verizon is investing more than $23 billion to pass more than 18 million premises with its next-generation, all-fiber FiOS network, and has already passed more than 15.9 million of those premises as of the end of June 2010."); Reply Comments of Verizon and Verizon Wireless, GN Dkt. Nos. 09-137 & 09-51, at 4 (filed Oct. 2, 2009) ("Rapid progress also has been made in deploying next-generation wireline and wireless technologies . . . . Verizon alone is investing $23 billion to pass 18 million homes with its next-generation, all-fiber FiOS network by the end of next year, and has already passed more than 13.2 million of those homes."); *AT&T U-verse Update: 2Q11*, *available at* http://www.att.com/Common/merger/files/pdf/2Q11_U-verse_Update_fact_sheet.pdf (last visited Aug. 23, 2011) (showing 29 million living units passed by AT&T's U-verse network); *AT&T 2008 Annual Report Highlights*, at 4 (Feb. 17, 2009), *available at* http://www.att.com/Common/about_us/annual_report/pdfs/2008ATT_Narrative.pdf ("We more than doubled the living units passed by our AT&T U-verse network to nearly 17 million [in 2008].").

[104] *See, e.g., AT&T U-verse TV and Voice Terms of Service*, *available at* http://www.att.com/u-verse/att-terms-of-service.jsp (last visited Aug. 23, 2011) ("AT&T U-verse Voice is a residential enhanced voice communications service that converts voice communications into Internet Protocol (IP) packets that are carried over AT&T's IP network. It may be generically referred to as 'voice over IP' or 'VoIP.'"); Verizon News Release, *FiOS Digital Voice: Here's How It Works* (June 3, 2010), *available at* http://newscenter.verizon.com/press-releases/verizon/2010/fios-digital-voice-heres.html ("FiOS Digital Voice uses an IP (Internet protocol)-based network of its own for calling and feature delivery, engaging the regular phone network only when a FiOS Digital Voice customer needs to call a user who's on the traditional network - or vice versa. Otherwise, it's a completely new

VoIP services, including SIP trunking services, to businesses.[105] Thus, the incumbent LECs have in fact already built IP voice networks.

Moreover, since at least 2009, these carriers have been calling for retirement of the PSTN on the basis that voice communications are migrating to IP networks.[106] According to AT&T, the PSTN and plain old telephone service ("POTS") are "relics of a by-gone era"[107] and "the question is *when*, not *if*, POTS service and the PSTN over which it is provided will become obsolete."[108] In fact, AT&T has effectively called for retirement of TDM-based networks on

---

(continued)

system that leverages the features of IP-based call control and will be able to leverage the many features and innovations that will be devised in the future.").

[105] *See, e.g.*, Verizon Business, *VoIP*, *available at* http://www.verizonbusiness.com/worldwide/products/voip/#compare (last visited Aug. 23, 2011) (describing Verizon's business VoIP services); Verizon Business, *VoIP FAQs*, *available at* http://www.verizonbusiness.com/worldwide/products/voip/#faq (last visited Aug. 23, 2011) (explaining that with Verizon's business VoIP services, "[v]oice and data packets travel over Verizon Business's dedicated IP network, not the public Internet"); Verizon Business, *IP Voice Services: Say Goodbye to TDM, Hello to Convergence*, *available at* http://www.verizonbusiness.com/Products/communications/ip-telephony/ (last visited Aug. 23, 2011) (describing Verizon's SIP Trunking service); *AT&T Business VoIP Portfolio*, *available at* http://www.business.att.com/binary/content/productbrochures/VoIP_Portfolio.pdf (2010) (describing AT&T's business VoIP services and depicting how "AT&T's VoIP network" delivers SIP-enabled applications); *SIP Trunking with AT&T IP Flexible Reach*, *available at* http://www.business.att.com/enterprise/Service/voice-services/voip/sip-trunking/ (last visited Aug. 23, 2011) (describing AT&T's SIP trunking service).

[106] *See* Verizon Comments on National Broadband Plan Public Notice # 25, GN Dkt. Nos. 09-47 et al., at 3 (filed Dec. 22, 2009) (advocating for "measures that would facilitate the retirement of legacy circuit-switched networks"); AT&T Comments on National Broadband Plan Public Notice # 25, GN Dkt. Nos. 09-47 et al., at 3 (filed Dec. 22, 2009) ("AT&T NBP PN # 25 Comments") ("[P]erhaps the single most important feature of Commission action at this time is the establishment of a firm deadline at which point the transition [to IP networks] will be complete.").

[107] AT&T NBP PN # 25 Comments at 1.

[108] *Id.* at 2 (emphasis in original).

January 1, 2017.[109] Surely AT&T would not zealously advocate for such proposals if it had not already completed substantial deployment of IP voice networks.

Second, opponents of the Petition assert that success in establishing peering arrangements for the exchange of Internet traffic in the absence of regulation shows that the same outcome can be achieved for facilities-based VoIP traffic.[110] This is incorrect. To begin with, Internet backbone networks cannot be relied upon to exchange facilities-based VoIP traffic. For example, facilities-based VoIP services sold to business customers must be subject to low latency. "Best efforts" public Internet traffic—the kind of traffic that Internet backbones transmit—may traverse numerous hops before it reaches its destination, resulting in high latency. For this reason, the exchange of facilities-based VoIP traffic requires the use of dedicated transmission facilities between IP networks that support the necessary Quality of Service ("QoS") needed to provide facilities-based VoIP services. Best efforts Internet backbone facilities are simply incapable of doing this.

In addition, the inability to rely on intermediate transport providers, like Internet backbone providers, forces competitors to seek direct IP-to-IP interconnection with incumbent LECs, but incumbent LECs have no rational incentive to establish such interconnection. Incumbent LECs have many more end-user customers than competitors like TWTC, Integra, and Cbeyond, and consequently, competitors need to interconnect with incumbent LECs much more than incumbent LECs need to interconnect with competitors.[111] The FCC recognized this fact in 1996 and implemented the interconnection obligations of Section 251(c)(2) of the Act with the

---

[109] *See* AT&T Comments, WC Dkt. Nos. 10-90 et al., at 32 (filed Apr. 18, 2011).

[110] *See* AT&T Comments at 10; USTelecom Comments at 5; Verizon Comments at 6-7; Alcatel-Lucent Comments at 10.

[111] *See Local Competition Order* ¶ 10 (describing incumbent LECs' incentive to refuse to interconnect with competitors).

intention of "offset[ing] the imbalance in bargaining power between incumbent LECs and competitors and encourag[ing] fair agreements in the marketplace between parties by setting minimum requirements that new entrants are guaranteed in arbitrations."[112] The Commission's rationale was that "[n]egotiations between incumbent LECs and new entrants are not analogous to traditional commercial negotiations in which each party owns or controls something the other party desires."[113] This rationale still holds true today. According to the Commission's most recent data, incumbent LECs still have a 68 percent share of the wireline retail local telephone service market for both residential and business customers.[114] And as Megapath et al. explain, RBOC consolidation has only increased the bargaining power of AT&T and Verizon.[115] Accordingly, absent a backstop requirement that incumbent LECs interconnect pursuant to Section 251(c)(2) for the routing and transmission of facilities-based VoIP services, incumbent LECs will exploit commercial negotiations to deny, delay and degrade IP-to-IP interconnection.

Third, contrary to the incumbent LECs' arguments,[116] a clarification that incumbent LECs have a statutory duty to provide IP-to-IP interconnection will not hinder the deployment of broadband. In fact, as discussed in Part II.A above, the record makes clear that such a clarification will help accelerate broadband deployment. The Commission already recognized this fact when it recommended "encourag[ing] the shift to IP-to-IP interconnection where efficient" in the National Broadband Plan.[117]

---

[112] *Id.* ¶ 216.

[113] *Id.* ¶ 55.

[114] *See Local Telephone Competition: Status as of June 30, 2010*, Figure 3 (Mar. 2011).

[115] *See* Megapath et al. Comments at 6.

[116] *See* AT&T Comments at 2; USTelecom Comments at 4; Verizon Comments at 4.

[117] *See* National Broadband Plan at 49.

The incumbent LECs' claim that mandating IP-to-IP interconnection would discourage rural broadband deployment[118] is similarly makeweight. Incumbent LECs cannot legitimately be concerned that granting the relief requested by TWTC would force them "to divert limited investment resources from broadband deployment" to rural areas[119] when the Commission is in the process of creating a $4.3 billion fund to subsidize rural broadband deployment.[120] Furthermore, competitors that serve rural customers support TWTC's Petition,[121] thereby undermining the incumbent LECs' claim. In fact, by refusing to provide IP-to-IP interconnection, it is the incumbent LECs that are raising these competitors' costs and delaying the transition to IP networks in high-cost areas.[122]

Finally, the incumbent LECs' argument that TWTC is merely attempting to foist on incumbent LECs the costs of IP/TDM conversions[123] is without merit. That argument is a zero sum proposition because under the status quo, the incumbent LECs impose these costs on competitors.[124] By refusing to provide IP-to-IP interconnection, the incumbent LECs are doing exactly what they claim TWTC is attempting to do.

---

[118] *See* USTelecom Comments at 4.

[119] *Id.*

[120] *See generally USF/ICC Transformation NPRM*.

[121] These competitors include Charter and TDS. *See generally* Cablevision and Charter Comments; Megapath et al. Comments.

[122] *See* Cablevision and Charter Comments at 2 ("ILECs' refusal to honor their section 251(c) obligations forces competing CLECs to incur additional network costs and inhibits the Commission's goal of encouraging carriers to migrate to more efficient IP-based networks.").

[123] *See* AT&T Comments at 2; USTelecom Comments at 4-5; Verizon Comments at 11-12.

[124] *See, e.g.*, Cablevision and Charter Comments at 5 ("ILECs obtain a competitive advantage over VoIP providers, and CLECs that carry VoIP traffic, precisely by forcing them to incur these unnecessary costs."); Ymax Comments at 4-5 ("[N]umerous [incumbent] local exchange carriers, including AT&T, impose burdensome costs on other providers and their customers to convert traffic from IP to TDM. Because a few large carriers control a large share of the market, they

Moreover, it is doubtful that the incumbent LECs would incur significant conversion costs because they already must convert large volumes of traffic between their long-haul IP networks and their local TDM-based switches. They therefore have almost certainly deployed facilities that could accommodate the small amount of competitive LEC traffic that would need to be converted.

In addition, this is a very short-term problem if the incumbent LECs are correct that TDM-based voice service will soon be replaced by VoIP. Requiring conversion will only accelerate incumbent LEC adoption of IP,[125] surely a goal worth promoting.

2. AT&T's Argument That Incumbent LEC Separate Affiliates Are Not Subject To Section 251(c)(2) Is Contrary To Established Precedent.

AT&T asserts that the duty to provide interconnection under Section 251(c)(2) does not apply to facilities owned by an incumbent LEC's separate affiliates.[126] This assertion is contrary to the holding in *ASCENT*. There, the D.C. Circuit held that the FCC lacks the authority to allow an incumbent LEC to avoid its Section 251(c) obligations by transferring facilities to and providing service through a separate affiliate.[127] That holding prohibits AT&T from claiming that facilities held by or services provided by an affiliate of the incumbent LEC are exempt from the requirements of Section 251(c)(2). As explained above, the only means by which AT&T can avoid complying with its obligations under Section 251(c)(2) is by meeting the requirements for

---

(continued)

can force smaller companies to maintain obsolete TDM interfaces – even though these incumbents use IP within their own networks . . . .").

[125] *See* Cablevision and Charter Comments at 5.

[126] *See* AT&T Comments at 9-10.

[127] *ASCENT*, 235 F.3d at 666-68.

forbearance under Section 10 of the Act. The Commission should therefore reject AT&T's argument.

III. CONCLUSION.

For the foregoing reasons, the Commission should grant TWTC's Petition.

Respectfully submitted,

/s/ Paul B. Jones
Paul B. Jones
Executive Vice President –
General Counsel & Regulatory Policy
tw telecom inc.
10475 Park Meadow Drive
Littleton, CO 80124
(303) 566-1237

/s/ J. Jeffery Oxley
J. Jeffery Oxley
Executive Vice President & General Counsel
Integra Telecom, Inc.
1201 NE Lloyd Blvd., Suite 500
Portland, OR 87232
(503) 453-8118

/s/ William H. Weber
William H. Weber
General Counsel
Cbeyond, Inc.
320 Interstate North Parkway, SE
Atlanta, GA 30339
(678) 370-2327

August 30, 2011